

## **ECMS-22 User Guide & Owners Manual**

Congratulations on your purchase of this distinguished JK Labs product. This manual gives an introduction to the passive ECMS-22 microphone interface system and how to use it.

Beware that the unit is shipped without the battery installed. The unit needs to be opened in order to install one 9 V battery. See below for details on how to do this.

*Note: Do NOT feed the ECMS-22 any form of phantom power through the XLR ports!*

Some information pertaining to the identification of ports and controls are located underneath the lid, inside the unit. See also figure of controls and ports on page three of this document.

### **Parts needed for making a recording with the JK Labs ECMS system:**

- Two microphone capsules from AKG (supplied by the user).
- Two AKG “active cables” supplied by JK Labs.
- The JK Labs ECMS-22 box (power plant/microphone-interface).
- XLR → TBD interconnects.
- Microphone preamplifier (or line amplifier) & recorder. .

### **Mounting of the mics:**

- This is up to the user’s imagination. Hair, hat or stands are all suitable platforms.
- The heads are 21 mm in diameter w/ a “tailpipe” sized 7.5mm in diameter and 8 mm long.
- Keep directional microphones away from boundaries to the extent possible.

### **Connections:**

- The capsules screw on to the head of the active cables. Be gentle.
- The two active cables are color-coded: red is right channel and black is left channel.
- Keep contact areas clean and well protected.
- If the contacts need a cleaning do use an alcohol-soaked swab.

### **Hook-Up procedure, recommended (not critical):**

1. Attach the capsules to the active heads/cables.
2. Attach the active head/cables to the ECMS inputs.
3. Power up the ECMS.
4. Power up the downstream recorder (or preamp). Do NOT use PHANTOM power!
5. Connect the ECMS to the downstream device.

### **Take-Down procedure, recommended (not critical):**

As for Hook-Up, but executed in opposite order.

## **ECMS-22 Features**

### **Internal 0/-15 dB pad:**

- An internal 0/ -15 dB pad is available if the need should arise. To engage this pad: open the unit, locate the miniscule green shorting bridge which shorts two of three “co-located” (pcb row) of header pins. Settings:
  1. 0 dB: pad placed on the “H” side. (Default setting from factory.)
  2. -15dB: shorting bridge on the “L” side.

### **OFF-ON/Power Remains:**

- Recessed pushbutton switch. Use a sharp object if necessary to engage the switch.

### **“Power On LED”:**

- Weak red glow from a 3 mm LED whenever the unit is powered on.

### **Battery/replacement intervals:**

- One 9 Volt battery.
- Current is drawn from the battery whenever the ECMS is powered on.
- Run time: Alkaline (550mAh) will last 100+ hours. Li-Ion type 200+ hours.
- Keep track of use and replace according to above schedule. Ample safety margin is built in provided a healthy battery is used.

### **Batteries installation and removal:**

- Use a properly sized Philips screwdriver and unscrew the four screws securing the lid.
- Locate the internal battery compartment and the “snap connector”.
- Mount the 9V battery to the battery snap connector.
- Do make sure there is a string around the battery that will aid in its removal.
- Push the battery down into the battery compartment. The fit is snug!
- Pad with foam if necessary.
- Close the lid and put the four screws back in (no need to tighten hard!)
- Remove the 9 Volts battery if the ECMS-22 unit is to be stored for long periods.

### **Polarizing voltage:**

- V\_polarizing is provided by an internal high voltage battery pack. It will last about five to eight years before it needs to be replaced (Replace when V\_pol drops below 27 Volts).
- The ECMS-22 unit is designed to work even if the polarizing voltage pack but at a degraded S/N ratio and reduced output level.

### **Supply voltages, how to measure:**

- A digital voltmeter will enable measurement of the +9 Volt rail internally and on the 4 pin.
- The polarizing voltage is best measured internally. Follow the leads (the voltage is available across the H/L pad when the unit is on).

**ECMS-22 Special concerns:**

- Electrical
  - Avoid feeding the unit phantom power through XLR!!.
  - The unit will survive phantom power but the audio performance suffers.
- Mechanical
  - Protect the threads and center pin/electrodes on the active head.
  - Do not twist, push or pull the thin (but resilient) active-head wires.

**ECMS-22 Layout and Functions:**

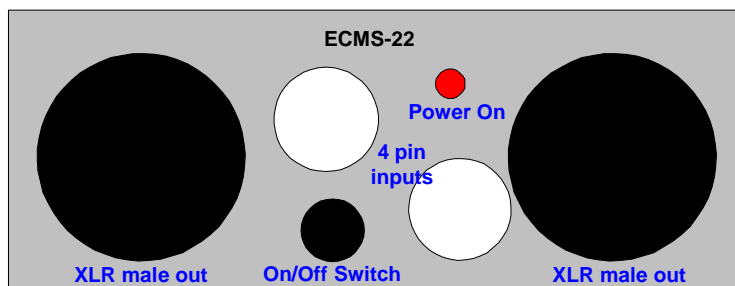


Figure 1. The front of the ECMS-22

**Warranty**

A warranty period of one year applies against defects in parts and workmanship. Standard terms and reservations apply. Damage by mechanical/electrical etc. misuse/abuse etc. is explicitly not covered.

**Support**

JK Labs take pride in what we do and our products. What we build is both robust & sturdy and will take a fair amount of rough use. If there is a problem or a question, we'll do our best to respond fast and in the best interest of our customers.

**Happy taping!**

**Technical Specifications ECMS-22****General**

Capsule input interface	Custom built for members of the AKG CK6x..series
Will also accept after 4 pin conversion	Neumann LC-3, MBHO active & JKL MGefell active
Number of channels	2, independent
Number of capacitors in signal path	1 (DC blocking on XLR output)
Overall signal phase	Phase preserving ("Absolute phase").
Circuit topology	Transformer less, Class A head buffer, passive interface box.

**Performance**

Frequency Range, THD, noise etc:	Given by the capsules
L/R channel level matching	Given by capsules

**Input**

Connectors	Circular, screw-locking 4-pin
Input Impedance	100 kOhms
Max allowed input signal	No limit

**Output**

Connectors	Two XLR
Output impedance	100 Ohms
Recommended load impedance	4 kOhms, preferably > 10 kOhms for optimum performance
Minimum load impedance	500 Ohms (NB Unit will not suffer damage if outputs are shorted)

**Power Supply**

Batterytype & voltages	Battery Power (9V, Li/MnO2 recommended, R_internal = 3 Ohms & higher voltage)
Power Consumption	"small"
Polarizing voltage source	Switch-less, totally noiseless design
Run time per battery [hours]	Alkaline 100 hours, Lithium-Ion 200 hours

**Physical**

Weight incl battery	470 grams
Dimensions	4.33L x 3.23W x YH
Casing Material/Thickness	Diecast Al
Finish/Coating	Black

**AKG active heads**

Length	Custom (11 feet is standard)
Wire	Multistrand, silvercoated, strong, resilient & thin diameter rubbercoated wire.
Brass head	Mechanical and electrical support for the AKG modular CK6x series
Termination	4 pin "mic connector"

**Comments**

- The ECMS-22 is very closely integrated with the active cables for optimum overall performance.
- Brass (used in the active heads) is a "fat" metal and does not hold paint well. The original coating from factory (if any) is to be regarded as beyond normal delivery and cannot be expected to last through use and abuse for very long. The user is free to experiment with his or hers own way of coating, wrapping, staining or covering the heads. Just make sure the cable and the threads/internals are well protected from any potential damage [mechanical, heat, chemical etc...]
- The heads are shipped with a 12 feet thin bore cable on which there is a piece of heatshrink installed. In case of damage to the active cable, slide this heatshrink tubing over the damaged area and heat the tubing evenly around. (Do not melt the cable underneath!). The tubing will crimp and form a strong protective seal.
- The cable will operate even if the entire braided shield has been severed (but then the audio will be more susceptible to pickup of hum and RF noise, should such sources be present).